# Comparative Technical and Economical Data for Sustainable Soil Disinfestation Alternatives in Vegetables Crop for Plastic Greenhouses in South France

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**After the first positive trials of solarization in the last 80's in greenhouses to confirm Israeli data on corky root of tomatoes in greenhouses in the Mediterranean condition of Roussillon by 42° North Latitude, no practical extension occurred. New trials on sclerotinia drop of salad in open fields and greenhouses in 1990 were very successful and the technical and commercial pressure enhanced development of these techniques for organic farming as well as integrated production in Roussillon. Roussillon is one of the major South France area for salad crop and solarization has proved to be a good alternative as well for soil pathogens and weeds with already an average of 150 ha/year of solarized greenhouses since 1996. Bottlenecks need to be solved to push solarization limits including mechanical application in open fields with strong wind and combination with biopesticide or low dosage of fumigants.**

**So Biophyto a field demonstration project to compare sustainable organic farming system and integrated production was created in 1994. Soil disinfection alternatives were compared on the model of melon and lettuce in plastic greenhouses. After five years and ten successive crops, data on long term effect on sclerotinia drop of lettuce and root pathogens of melon confirm the practical interest of solarization. The graph shows the similar efficiency level of solarization alone compared to combination of low dose of dazomet (50g/m2) and solarization on sclerotinia. The table shows the comparative costs of the soil disinfection alternatives including work of soil preparation. In our climatic and market conditions of South France, technical and economical data for these vegetables in greenhouse have proved feasibility of the solarization technique, at least every two years, as a sustainable alternative for soil disinfection.**